



Preschool Teachers' Knowledge Levels about Inclusion^{*}

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Abstract

The purpose of this study is to develop the Inclusion Knowledge Test (IKT) for assessing preschool teachers' knowledge of inclusive practices and to examine its psychometric characteristics. To achieve this purpose, the researchers wrote short stories (vignettes) focusing on the various aspects of inclusive practices, such as assessing the development of children with disabilities, adapting a preschool curriculum, and interacting with families of children with disabilities. Having been evaluated by a panel group consisting of experts who worked in special education fields, all vignettes were reviewed, and necessary adjustment and changes were made. Then the data were collected from the IKT responses of 169 preschool teachers, and validity and reliability studies were carried out. According to the results of the analysis, the IKT consists of 24 items (vignettes) loaded on one factor, and the factor loads of all items were more than .40. Cronbach's Alpha is .917. The findings showed that the preschool teachers have very limited knowledge of inclusive practices, and their IKT scores did not change according to their experience or whether or not they had children with disabilities in their classroom. However, there was a significant difference between the IKT scores of the teachers who had and did not have a special education course during their pre-service training.

Keywords

Inclusion, Knowledge Test, Preschool Teachers, Vignettes

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Inclusion practices started with the passage of the Children in Need of Special Education Law by Turkey's Ministry of National Education (Milli Eğitim Bakanlığı [MEB], 1983), and since the 1980s, children with special needs have been placed in general education classrooms. With new legislation and regulations, children with special needs are educated in regular classrooms (MEB, 2004, 2006), and teachers are required to meet the needs of children with and without special needs in their classrooms. Since the courses teachers take during their undergraduate years do not prepare them for working with children with disabilities, teachers, who are the most important factor of inclusion (Batu, 2010; Burke & Sutherland, 2004; Odom, 2000), often graduate without gaining knowledge or experience working in inclusive classrooms. Hence, teachers generally face serious difficulties regarding inclusion, and inclusion practices may not yield the desired outcomes (Batu, 2010; Gök & Erbaş, 2011).

Successful inclusion in preschool education requires teachers to modify the instructional setting, use effective instructional methods and strategies, adapt instruction, and provide equal learning opportunities for all children (Bricker, 2000). They are also expected to assess children's development, prepare an effective learning environment, engage all children in learning activities, use different instructional methods and strategies, and work with families (Bruns & Mogharraberran, 2009). The lack of knowledge, skills, and experiences to fulfill these roles is one of the most important barriers to effective inclusion (Pivic, McComas, & La Flamme, 2002; Soodak et al., 2002).

In previous literature, it is emphasized that preschool teachers lack adequate knowledge to meet the needs of children with special needs, and they do not see themselves capable of working with such children (Odom & Bailey, 2001). Teachers indicate that the most serious barrier in accepting children with special needs into their classrooms is their own lack of knowledge and experience regarding inclusion (Dinnebell, McInnerey, Fox, & Juchardz-Pendry, 1998; Wesley, Buysse, & Tyndall, 1997), and indeed, their need for knowledge about inclusion and children with special needs is frequently emphasized in the literature (Akalin, Demir, Sucuoğlu, Bakkaloğlu, & İşcen, 2014; Batu, 2010; Crane-Mitchell & Hodge, 2007; Gök & Erbaş, 2011; Huang & Diamond, 2009). Teachers indicate a need for knowledge and experience with inclusion (Sadler, 2005), especially in the areas of techniques

to support interactions among children with and without special needs and the use of effective classroom strategies (Bruns & Mogharraberran, 2009; Küçükler, Acarlar, & Kapçı, 2006; Varlier & Vuran, 2006). In addition, teachers also need the support of principals, consultations with experts, planning in their schedules, and access to necessary resources (Odom, 2002; Werts, Wolery, Snyder, & Caldwell, 1996); however, it is accepted that increasing their knowledge and experience improves the quality of inclusion in the classroom (Bredekamp & Copple, 1997; Werts et al., 1996).

Teachers' knowledge about children with special needs and inclusion can be assessed in various ways, one of which is using vignettes that provide short stories to evaluate teachers' knowledge, experience, and ideas. Vignettes are traditionally used to identify the level of comprehension, to explain the results with examples, to model the best practices, and to support instruction in education (Jeffries & Maeder, 2004). They present scenarios to elicit and discuss thoughts about special and important topics and are used to gather qualitative and quantitative data in social and health sciences (Simon & Tierney, 2011). Jeffries and Maeder (2004) indicated that vignettes constitute an important part of teacher education and are powerful assessment tools for assessing what teachers know and how they acquire what they know.

Vignettes can be prepared as case reports or scenarios; they constitute real life stories that can be written by a person in the classroom and from her or his perspective (Hunter & Hatton, 1998; Jeffries & Maeder, 2004; Simon & Tierney, 2011; Stecher et al., 2006). In educational research, vignettes also include one to eight questions about the short stories. For example, Tierney (2010) prepared eight single-paragraph stories that each preceded three standard questions, whereas Washburn-Moses (2008) used only one story and five questions.

Veal (2002) indicated vignettes were used in both pre-service and in-service teacher training programs in order to increase the knowledge and understanding of teachers and teacher candidates. In Stecher et al. (2006), close-ended vignettes were suggested as valid tools for assessing important aspects of instructional practices. In Ashton, Buhr, and Crocker (1984), vignettes were used to assess the effectiveness of teachers in dealing with situations they could encounter in their classrooms. In addition, Clark and Artiles (2000) assessed to what teachers attribute the failure of children with learning disabilities with eight short stories. Moreover, Bianco-Cornish (2003)

assessed whether teachers preferred to send children with learning disabilities and children with behavioral and emotional disorders to the gifted program at their schools via three short stories, and they found that labeling affected the ideas of both special and general education teachers. In Turkey, pedagogic and technologic knowledge of primary school teacher candidates was found to be inadequate when assessed by short stories (Kaya, Kaya, & Emre, 2012).

Qualitative studies in Turkey suggest that preschool teachers have limited knowledge and experience about inclusion; however, there are no quantitative studies regarding this issue. Therefore, there seems to be a need to develop a knowledge test based on the real-life situations preschool teachers could encounter in their classrooms. The first purpose of this study is to develop a knowledge test that assesses the knowledge levels of preschool teachers pertinent to inclusive practices and to examine its psychometric properties. The second purpose is to examine the effects of variables such as age, experience, undergraduate education, having a student with special needs in the classrooms or not, and having taken a course related to special education or inclusion in pre-service education or not, on scores on the Inclusion Knowledge Test (IKT).

Method

Participants

The participants were 169 preschool teachers who volunteered to participate in this study. A majority of the teachers (87%) had an undergraduate degree in preschool teaching. Their ages ranged from 18 to 53, and their work experience ranged from one year to 34 years. Approximately 30% of the teachers had students with special needs in their classrooms, and 50% of them had previously worked with such children. Fifty percent had taken a course about inclusion during their undergraduate studies.

Instruments

Information Form: This form included questions related to age, work experience, undergraduate education, having a student with special needs in the classroom, and having taken a course related to special education or inclusion in undergraduate studies.

Inclusion Knowledge Test (IKT): The IKT was developed by the researchers to assess preschool teachers' knowledge about inclusion. It included short case stories. To aid in writing vignettes that serve certain purposes (Richman & Mercer,

2002), studies that were conducted in Turkey were reviewed, and only three studies related to preschool teachers' knowledge about inclusion were identified (Gök & Erbaş, 2011; Secer, 2010; Sucuoğlu, Bakkaloğlu, Akalın, Demir, & İşçen Karasu, 2013). These studies indicated that teachers needed to have knowledge about six subjects regarding inclusion: 1) characteristics of children with disabilities and inclusion, 2) assessment of children's performance and adaptations of the curriculum, 3) naturalistic teaching strategies, 4) supportive language and communication, 5) classroom and behavior management, and 6) working with families. The short stories were written based on Simon and Tierney's (2011) principles of writing a vignette, and teachers were asked to respond to situations they could encounter in their classrooms. Two types of questions were used. The first type included asking teachers about what they would do if they had a situation similar to the one in the story. The second type consisted of a given situation where a teacher decided how to act in a given situation, and the responder was required to write whether this behavior was correct and to justify the answer.

Procedure

Researchers prepared 45 short stories in six categories and an open-ended question to elicit the teachers' thoughts, knowledge, and reasoning. Six judges from the fields of special education and early childhood education evaluated the short stories in terms of content, language, and understandability. According to their suggestions, new stories were added, some stories were modified, and others were omitted. Then, the first drafts, which included 45 vignettes, were given to 20 preschool teachers, and the teachers were asked to evaluate the stories in terms of language and understandability. Later, the IKT was given its final form according to the suggestions of judges and 20 teachers.

Later, the final form of the IKT was sent to 169 preschool teachers from different schools. A week later, the test responses were received. It was found that 12 questions were left blank by 80% of the teachers; therefore, these questions were excluded from the test before conducting analyses, leading to 33 questions in the final analyses. At the same time, an answer sheet was prepared, and prospective answers were listed for each question. The minimum and maximum score of each item on the IKT varied between 2 and 8. For the analysis, all scores obtained from the test items were converted

to the decimal system. Thus, the total scores of the test varied from 0 to 330. Higher scores on the IKT indicated higher knowledge levels about inclusion. To examine the reliability of the IKT, two graduate students from the Special Education Department independently evaluated the answers given by the teachers based on the answer sheet until the correlation coefficient value between the two students' scoring reached 100%.

Results

Construct Validity of the IKT

Firstly, an exploratory factor analysis was conducted. Nine items that had item factor loadings lower than .40 or had high factor loadings on two or more factors were omitted, resulting in 24 items left on the IKT. The KMO value, which was greater than .5, and Bartlett test score indicated that the dataset was convenient for factor analysis (Pallant, 2005). The first principal component analysis and Varimax rotation indicated that 24 items were loaded on six factors. As Kline (1994) suggested, a Scree test was applied, and the IKT was identified as having one factor. The one-factor structure yielded a .90 KMO value, $p = .000$, and this explained 34.9% of the variance; factor loadings of the items ranged from .43 to .71. The correlations of items with the total score ranged from $r = .42$ to $r = .98$.

Additional analyses were conducted in order to examine whether certain variables such as work experience, having taken courses related to children with special needs and inclusion, having children with special needs in their classrooms yield to differences in IKT scores. Since a majority of the teachers (86%) had graduated from four-year teacher training programs, the variable of teacher's education was excluded from the analyses. Almost half of the teachers had work experience of five years or less; therefore, they were grouped as teachers who had work experience 5 years or less and 6–34 years. The length of work experience did not significantly affect IKT scores.

Since only 9.4% of teachers in the study group (16 teachers) had received in-service training about inclusion; this variable was removed from the analysis. However, 31 teachers (18.1%) had taken a course related to inclusion and/or children with special needs during pre-service training. It was found that having a course related to inclusion did not significantly affect the IKT scores, but a course entitled "Introduction to Special Education" had a significant, positive effect on the teachers' scores.

Lastly, teachers who previously had or did not have students with special needs in their classrooms did not significantly differ in terms of their IKT scores.

Reliability of the IKT

To assess the reliability of the IKT, Cronbach's Alpha coefficient was calculated and found to be .917.

Results Related to Teachers' IKT Scores

Teachers' mean score on the IKT was 71 (SD = 36.40), and the range was zero to 146.75. Since the highest score possible on the IKT is 240, the mean score indicated that the participant teachers could only answer 29.50% of the questions. Their scores on the six subcategories of the IKT were quite the same.

In order to identify the areas that the teachers had less knowledge about, the items were examined individually. The teachers had the lowest scores on the following areas: incidental teaching, working with families, preparing individualized education plans, classroom and behavior management, and naturalistic teaching strategies. Thus, it can be suggested that preschool teachers' knowledge levels about inclusion is highly limited.

Discussion

The purpose of this study was to develop a knowledge test based on vignettes to evaluate preschool teachers' knowledge about inclusion. Preschool teachers only take courses on special education in their pre-service education, and the inclusion course is generally elective. These courses present general knowledge about inclusion, but they do not provide information on special techniques and strategies that can be used in inclusive classrooms (Praisner, 2003). Therefore, it can be suggested that the preschool teachers in this study had limited knowledge. Vignettes were chosen to assess their knowledge and to identify their approaches to problem situations as well as their solutions to these situations. For one of the questions, 77% of the teachers provided correct answers even though they were limited in content. Even though individualizing instruction is one of the areas of difficulty for preschool teachers (Batu, 2010; Gök & Erbaş, 2011), 65% of the participant teachers attempted to answer the question related to individualization. On the other hand, 70% of them did not answer the question related to naturalistic

teaching strategies, and the scores of the teachers who did answer this question were substantially low. These findings suggest that vignettes can assess preschool teachers' knowledge and elicit solutions to problems encountered in classrooms even though the answers are limited.

The validity and reliability studies of the IKT showed that the test had strong psychometric properties. The principal component analysis indicated that the test had a one-factor structure. However, the teachers had difficulty answering the questions because the test was long, and all the questions were open ended. In future studies, some items can be omitted from the test or merged to include only one question for each category.

Work experience and having a child with special needs in the classroom did not significantly affect preschool teachers' knowledge levels, but having taken a course in special education did. These courses are accepted as good sources of increasing teachers' knowledge (Buell, Hallam, Gamel-McCormick, & Scheer, 1999). Leyser and Toppendorf (2001) suggested that giving two or more courses on a related topic might be more effective at increasing teachers' knowledge. The findings of this study showed that having a pre-service course on special education significantly affected IKT scores. However, similar effects were not found for undergraduate courses on inclusion. These findings might be due to the course contents. In future research studies, teachers' in-classroom behaviors should be observed to examine whether teachers transfer the strategies they have learned in pre-service and in-service courses to their classrooms.

This study is unique in that the purpose was to identify what aspects of inclusion teachers needed to learn more about. Future studies may be conducted with different preschool teachers, and analyses could be repeated to improve the psychometric properties of IKT. One of the major limitations of this study was that teachers were not observed in their classrooms; therefore, it is not known whether they used the knowledge they received from the given training to effectively utilize the strategies in their classrooms. Future studies may examine whether teachers who receive training on inclusion significantly differ in their use of the strategies they have learned in comparison to teachers who do not receive such training.

To conclude, we are aware of that high quality preschool education is necessary for children with special needs, and since the preschool curriculum has been revised, the goal is to increase the quality of preschool education (MEB, 2011); however, a high quality preschool curriculum by itself is not enough to meet their needs (Odom, Buysse, & Soukakou, 2011). Therefore, the recommended practices for inclusion should be used in preschool classrooms, and teachers should be capable of using methods and strategies that are accepted as evidence based. In future studies and practices, to identify the contents of pre-service and in-service training programs, the IKT can be used to assess teachers' knowledge so that the areas in which they lack knowledge can be incorporated into the trainings. Thus, even though the physical conditions of preschool classrooms are inadequate and the support services for teachers are insufficient, empowering preschool teachers with regard to inclusive practices might lead to an increase in the success of preschool inclusion, and the needs of children with special needs might be met.

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